North Sewer - Bldg. 3

2807-91796

CITY OF MOUNTAIN VIEW

Application for Industrial Wastes Discharge Permit

No. 039-2-79

Date February 20, 1974

A. Name of Organization Raytheon Semiconductor
Address 350 Ellis Street, Mountain View, Calif. 94042
Address of Point of Discharge 350 Ellis Street (same)
Individual Responsible for industrial waste — Name Robert W. Thompson — Telephone 968-9211, X418
Signature Robert W Thompson

Attach Map Showing Point of Discharge, Sampling Points, and Waste Treatment Facility.

B. Flow Rate: Average 146,000 gals/day Max. 200,000 gals/day Peak Hourly 500 Est. GPM

C. Submit separate statement:

1. Detailing type of industry and nature of products
2. Listing chemicals used and approximate concentrations
3. Describing waste treatment facilities
4. Giving characteristics of exceptional industrial wastes
5. Concerning radioactive wastes
6. Naming organic solvents discharged and concentration at point of discharge

D. Indicate the point of discharge concentration of the following characteristics and mass emission rates where applicable.

Biochemical oxygen demand (B.O.D.)	1.0 mg/1	Grease and oil, total	1.6 mg/1
Chemical oxygen demand (C.O.D.)	19.5 mg/1	Hydrogen Ion content pH	7
Total Solids, Average	164 mg/1	Fluoride	0.5 mg/1
Suspended Solids, Average	3.3 mg/1	Chlorine demand	1.8 mg/1
Temperature	ambient °F		

	Max. Conc. Allowable mg/1	Allowable Mass Emission Rate kg/day
Arsenic	0.1	0.01
Barium	--	--
Beryllium	--	--
Boron	1.0	0.1
Chlorine	50.0	5.0
Cadmium	--	--
Chromium Hexavalent	1.0	0.1
Chromium Total	2.0	0.2
Cobalt	--	--
Copper	1.0	0.1
Cresols	2.0	0.2
Cyanides	1.0	0.1

	Max. Conc. Allowable mg/1	Allowable Mass Emission Rate kg/day
Formaldehyde	--	--
Lead	--	--
Manganese	--	--
Mercury	--	--
Nickel	1.0	0.1
Chloroform	--	--
Phenols	1.0	0.1
Selenium	--	--
Silver	--	--
Zinc	--	--

NOT TO BE COMPLETED BY APPLICANT

Permit to Discharge Industrial Wastes in Accordance with This Application Approved Subject to Attached General and Specific Conditions

Allen Shelley, Director of Public Works

Signature Allen Shelley Date April 13, 1976

Permit to Discharge Exceptional Industrial Waste Approved

List Details:

Allen Shelley, Director of Public Works

Signature _____ Date _____

DISTRIBUTION: Original to Industrial Waste File, Copy to Discharger, Copy to Water Quality Control Plant, Copy to Palo Alto, Copy to Sewer Division.

(PW-23)

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CITY OF MOUNTAIN VIEW

Industrial Waste Discharge Permit

DATE: April 13, 1976 NO. 039-2-79

NAME OF ORGANIZATION: Raytheon Semiconductor

ADDRESS: 350 Ellis Street

GENERAL CONDITIONS

1. This permit is issued under the ordinances and regulations of the City of Mountain View currently in effect, but all discharges hereunder shall comply with all ordinances and regulations of the City and all other applicable local, state, and federal regulations, whether now in effect or hereafter adopted or amended.

2. Any violation of the terms of this Permit or the ordinances or regulations of the City shall be grounds for revocation.

3. If any proposed revisions in plant operations are expected to cause significant changes in waste water quality or quantity (25 percent or more, or 25,000 gallons per day) from that given in approved Permit information, an application for an amended permit must be submitted for approval detailing the nature of the changes.

4. In accordance with Section 35.32.8 of the City Code, accidental discharges of industrial wastes shall be reported immediately to the Public Works Department, telephone number 967-7211, Ext. 270, during normal office hours, or to the Fire Department, telephone number 968-4415, on holidays or after normal office hours AND to the Palo Alto Regional Water Quality Control Plant, telephone number 329-2598 so that appropriate countermeasures may be taken.

5. This Permit is not transferable without prior written consent of the Director of Public Works. In general, a change of ownership will require a new permit.

6. The issuance of this permit does not constitute a warranty that the design capacity of the sewage collection and treatment system is sufficient to accommodate peak sewage flows from all dischargers who may now or hereafter be connected to the system. Pursuant to Sec. 35.32.1(d) the City reserves the right to impose restrictions on sewage discharges where necessary in the judgment of the City to assure the proper functioning in the sewerage system.

SPECIFIC CONDITIONS

1. This permit is for a period ending on February 20, 1977 but shall be automatically renewed for up to four (4) additional successive one-year periods unless the City shall give written notice of nonrenewal at least thirty (30) days prior to the annual renewal date.

2. This permit applies to industrial waste discharges at the following location(s) only:

   350 Ellis Street, north sewer

3. Your attention is called to the fact that flow rates shown on the permit application exceed per-acre design flows of the sewers serving the above locations. Restrictions or additional charges may be imposed in accordance with Sec. 35.32.1(d) of the City Code should peak sewage flows from the total upstream acreage approach the capacity of these sewers.

Raytheon Company
Semiconductor Division - February 20, 1974

Sewer Permit information for the industrial/sanitary sewer which includes the plate shop neutralization system at Bldg. 3 (350 Ellis Street, Mt. View).

1. The activity at this location would be called light electronics manufacturing and plate shop, and consists of integrated circuit fabrication (utilizing epitaxial and diffusion processes) and gold, tin and copper plating, along with the corresponding office and engineering functions.

2. The list of chemicals used was made up after reviewing the Materials & Specifications Log (a Raytheon process control document) with the appropriate production & shop people to determine which items are used at this location and is as follows:

Methyl Alcohol
Acetic Acid, Glacial
Nitric Acid
Trichloroethylene (Electronic Grade)
Hydrofluoric Acid 49%
Acetone (Electronic Grade)
Sodium Hydroxide
Xylene
Sulfuric Acid
Isopropyl Alcohol, Electronic Grade
Ammonium Chloride
Ammonium Hydroxide
Nickelous Chloride (Crystal)
Potasium Cyanide - Granular
Hydrochloric Acid
Liquid Detergent
Phosphorous Pentoxide (Anhydrous P205
Detergent, Joy
Trichloroethylene
Hydrogen Peroxide - 30% solution
Process Water - Point of Use
Potassium Hydroxide - power
Phosphoric Acid, Ortho 85%
Boron Tri-Bromide - 50 Gram ampules

2. continued

Methyl Ethyl Ketone (MEK)
Silicon Tetrachloride - liquid
Immersion Gold Plating Solution - cyanide solution
Process Water, Delivered
Potassium Cyanide (KCN 96%)
Phosphorous Oxychloride (P0CL3)
Stannous Sulfate (Sn S04)
Antimony Trioxide
Chromium Trioxide (Cr03 + H20)
Freon - TF
8:1 Oxide Etch 8 parts NH4F (40%): 1 part HF (49%)
Copper Potassium Cyanide Double Salts (K2Cu (CN)3)
Enstrip A - power
Supertartral - liquid
Sulfuric Acid, Technical Grade
Neutra Rinse 40 - power
Chlorothene VG
J-100 Stripper
911 Stripper
N Strip TL
Tin Glo Culmo Brightener
Tin Glo Culmo Starter
Anhydrous Ammonia

3. Waste Treatment Facilities

3.1 The sewer is made up of a sanitary portion and an industrial portion.

3.2 The sanitary portion is a series of laterals feeding the sewer which goes under the north end of Bldg. 3 (350 Ellis St. Mt. View).

3.3 The industrial portion consists of a cyanide destruct system and a neutralizing system fed from the plate shop and from the extreme West side of Bldg. 3. The cyanide destruct system uses chlorine to destruct the cyanides coming from the plate shop and consists of a pit, stirrers, ph monitoring control and chlorine dispensing equipment. The effluent from this system flows into the neutralizing system. The neutralizing system consists of two pits with stirrers, ph monitoring and anhydrous ammonia introducing equipment.

3. 3.4 Solvents are collected and held in storage for hauling away by a licensed hauling contractor.

4. There are no exceptional industrial wastes at this location.

5. There are no radio active wastes at this location.

6. There is to be no measurable amount of organic solvents discharged at this location as there is a separate drain and collection system for solvents in Building 3.

DISTRIBUTION

Roger James, California Regional Water Quality Control Board
Tom Berkins, California Regional Water Quality Control Board
Howard Hatayama, California Department of Health Services
Gilbert Torres, State Water Resources Control Board
Thomas Iwamura, Santa Clara Valley Water District
Thomas J. Frutchey, City of Mountain View
Lee Esquibel, Santa Clara County Health Department
Larry Amon, Fairchild Semiconductor Corporation
Dennis Curran, Canonie Engineers
Stevo Dobrijevic, Canonie Engineers
Thomas D. Trapp, Landels, Ripley & Diamond
Lloyd R. Day, Jr., Cooley, Godward, Castro, Huddleson & Tatum
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Terry McManus, Intel Corporation
John Masterman, Intel Corporation
John Rothman, EPA